REVISION B

Prepare and Manage NASA SMA Requirements Documentation

Michael A. Greenfield, Ph.D.
Acting Associate Administrator for
Safety and Mission Assurance

February 1, 2002
Date

DOCUMENT HISTORY LOG

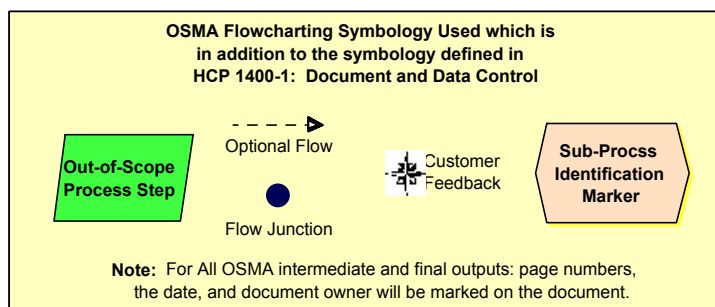| Status (Draft/ Baseline/ Revision/ Canceled)	Document Revision	Effective Date	Description
Baseline		January 13, 2000	
Revision	A	April 14, 2000	Modified Section 5 Flowchart outputs from steps 6.05, 6.07, & 6.10 and modified steps 6.12, and 6.16; Editorial corrections to steps 6.03, 6.04, 6.06, 6.07, 6.09, 6.10, and 6.12 – 6.17; Added second Quality Record to Section 7
	B	February 2, 2002	Added customer list, customer feedback to sections 5, 6.09, 6.12, and 6.14. Editorial corrections to sections 1, 3.10, and 4.3. Updated procedures for adoption of standards in sections 6.01, 6.02, 6.06, 6.08, 6.09, 6.13, 6.14, and 6.17. Removed HATS action item tracking from sections 6.05, 6.13, and 7. Changed retention of Discipline Review Draft and OSMA Approved Document in section 7. Due to the cancellation of HQOWI 1410-Q003, the following changed were made: Section 3.13, flowchart step Step 6.05, steps 6.05, 6.08, 6.13, and 6.17.

HQOWI Author: QS/Wil Harkins

OSMA Staff Member Responsible for this HQOWI: QS/Jim Lloyd

Customers for this HQOWI: Internal:HQ Codes, and NASA Engineering Standards Steering Committee

External: none

OSMA Flowcharting Symbology Used which is
in addition to the symbology defined in
HCP 1400-1: Document and Data Control

Optional Flow

Out-of-Scope
Process Step

Customer
Feedback

Sub-Procss
Identification
Marker

Flow Junction

Note: For All OSMA intermediate and final outputs: page numbers,
the date, and document owner will be marked on the document.

1. Purpose

The purpose of this Office of Safety and Mission Assurance (OSMA) Headquarters Office Work Instruction (HQOWI) is to document the process for the initiation and development of NASA Safety and Mission Assurance (SMA) policy and requirements documents and adoption of SMA sponsored standards. Documentation includes, but is not limited to: SMA Strategic Plan, NASA Policy Directives (NPD), NASA Procedures and Guidelines (NPG), NASA Standards (NASA-STD), voluntary consensus standards, other government standards, and other documents for which the OSMA is designated as the Office of Prime Responsibility (generally related to the safety, reliability, maintainability or quality assurance functional areas of interest). This HQOWI also specifies the Quality Records associated with the process.

2. Scope and Applicability

This OSMA HQOWI is applicable to the propagation of all policy and requirements documents by the OSMA organization except for OSMA HQOWIs which are covered by HQOWI 1410-Q001. Note: This process interfaces with a more global process owned by the Office of Management Systems and Facilities (Code J) as defined in NPD 1400.1.

3. Definitions

3.1.   <u>AA/SMA:</u> Associate Administrator for Safety and Mission Assurance

3.2.   <u>Code QE:</u> Enterprise Safety and Mission Assurance Division

3.3.   <u>Code QS:</u> Safety and Risk Management Division

3.4.   <u>DD:</u> Division Director

3.5.   <u>DL:</u> Document Lead

3.6.   <u>DTM:</u> Document Tree Manager

3.7.   <u>HATS:</u> Headquarters Action Tracking System

3.8.   <u>NASA Policy Directive (NPD):</u> NPD's are policy statements that describe the "what" that is required by NASA management for achieving NASA's vision and mission. (refer to NPG 1400.1)

3.9.   <u>NASA Procedures and Guidelines (NPG):</u> NPG's provide the detailed instructions and guidelines for implementing the NASA policy; they are the "how to" instructions. (refer to NPG 1400.1)
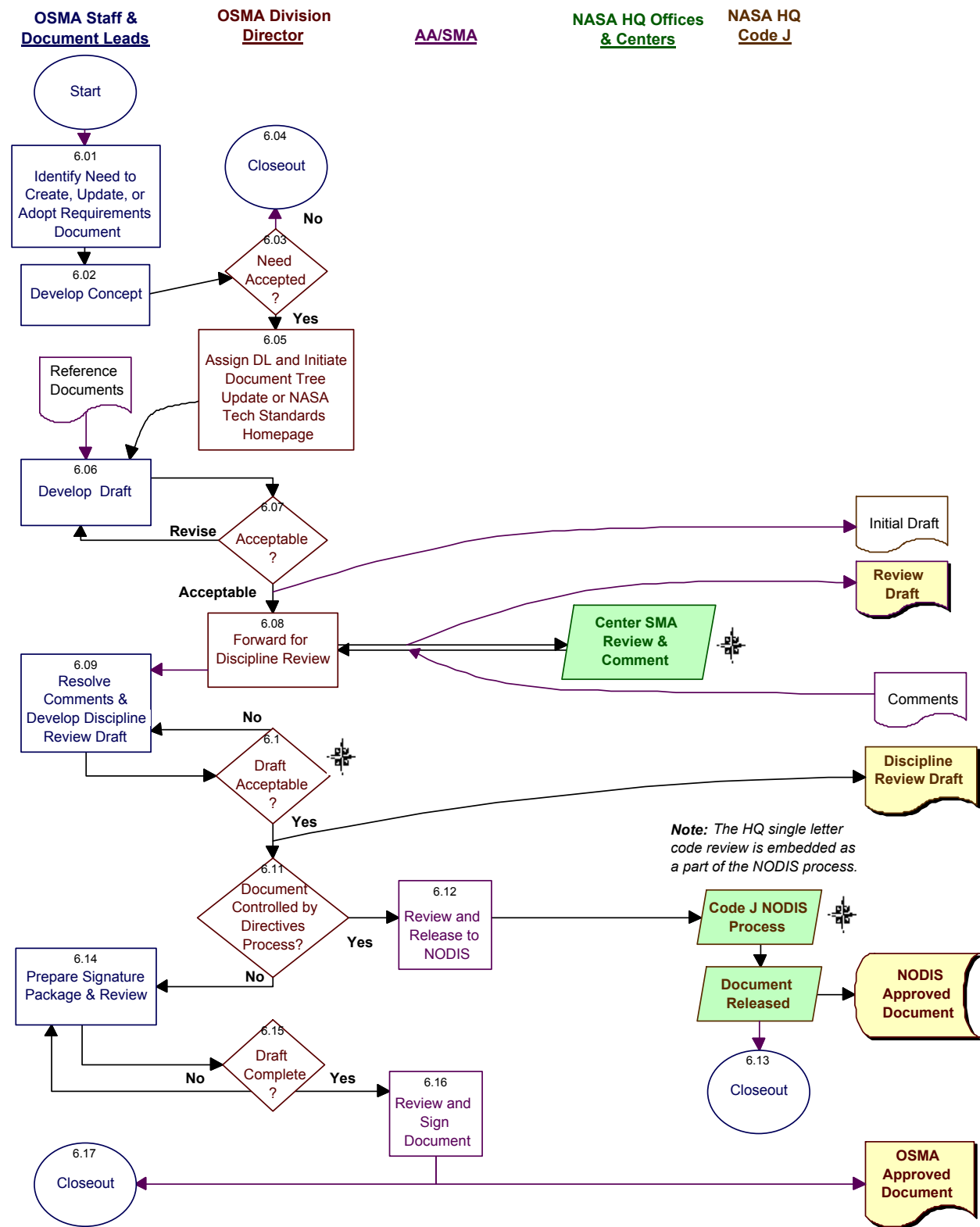
3.10.   NASA Standard (NASA-STD): A NASA-Standard is either: (1) Common and repeated use of NASA rules, conditions, guidelines or characteristics for products or related processes and production methods, and related management systems practices. (2) The definition of NASA terms, classification of components; delineation of procedures; specification of dimensions, materials, performance, designs, or operations; measurement of quality and quantity in describing materials, processes, products, systems, services, or practices; test methods and sampling procedures; or descriptions of fit and measurements of size or strength. (refer to NPD 8070.6 and the "*Guidelines for Preparing NASA Technical Standards (Handbooks, etc) as tailored from MIL-STD-962C)*".

3.11.   NODIS: NASA On-Line Directives Information System

3.12.   PM: Program Manager

3.13.   SMA Documentation Tree: A graphical representation of how the OSMA has assembled and interrelated its documents using a visual graphical interface. The tree may be used to both understand the document set for which OSMA is responsible and can be used for a hyperlink to meta-data about the document, the document status, the document itself, and training that may also be available. The document tree is maintained by the OSMA Document Tree Manager with the OSMA Webmaster and is located at http://www.hq.nasa.gov/office/codeq/doctree/doctree.htm

3.14.   SMA Strategic Plan: The SMA requirements document that sets the overall direction, goals, objectives and strategies for SMA within NASA.

4. Reference Documents

The documents listed in this section are used as reference materials for performing the processes covered by the Quality Management System (QMS). Since all NASA Headquarters Level 1 (QMS Manual) and level 2 (Headquarters Common Processes) documents are applicable to the QMS, they need not be listed in this section unless specifically referenced in this OSMA HQOWI.

4.1.   NPD 1400.1: *NASA Directives System Procedures and Guidelines*

4.2.   NPD 8070.6: *Technical Standards*

4.3.   Guidelines for NASA Preparing Technical Standards (Handbooks, etc) Tailored from MIL-STD-962C, dated 31 July 2001 (http://standards.nasa.gov/procsguidlns.pdf)

4.4.   HQOWI1410-J007: Agency Directives Management Process

5. Flowchart

OSMA Staff & Document Leads	OSMA Division Director	AA/SMA	NASA HQ Offices & Centers	NASA HQ Code J

Start

6.01 Identify Need to Create, Update, or Adopt Requirements Document

6.02 Develop Concept

6.03 Need Accepted? — No → **6.04** Closeout

6.03 Need Accepted? — Yes → **6.05** Assign DL and Initiate Document Tree Update or NASA Tech Standards Homepage

Reference Documents

6.06 Develop Draft

6.07 Acceptable? — Revise → 6.06

6.07 Acceptable? — Acceptable → **6.08** Forward for Discipline Review

Initial Draft

Review Draft

Center SMA Review & Comment

6.09 Resolve Comments & Develop Discipline Review Draft

Comments

6.1 Draft Acceptable? — No → 6.09

6.1 Draft Acceptable? — Yes

Discipline Review Draft

Note: The HQ single letter code review is embedded as a part of the NODIS process.

6.11 Document Controlled by Directives Process? — Yes → **6.12** Review and Release to NODIS

6.11 Document Controlled by Directives Process? — No → **6.14** Prepare Signature Package & Review

Code J NODIS Process

Document Released

NODIS Approved Document

6.13 Closeout

6.15 Draft Complete? — No → 6.14

6.15 Draft Complete? — Yes → **6.16** Review and Sign Document

6.17 Closeout

OSMA Approved Document

6. Procedure

6.01 OSMA Staff Member   Identify Need to Create, Update, or Adopt Requirements Document:

The need to develop a new or update a current SMA policy or requirements document or adopt a standard may be identified through a number of means. Means of identifying a need include, but are not limited to: the identification of a gap in the requirements tree for OSMA, direction from the senior management, changes in regulations or laws of an external authority, the identified need by customers needing guidance, a deficiency identified by evaluation of request for variance (refer to HQOWI 8700-Q004), functional reviews or process verifications.

6.02 OSMA Staff Member   Develop Concept:

The OSMA staff member identifies and details the documentation deficiency, establishes a plan for requirements document development or standard adoption and briefs the associated Division Director and/or other management.

6.03 DD   Need Accepted?

The OSMA Division Director (DD) (Code QE or Code QS) with responsibility for the document area (NOTE: see OSMA website for OSMA Divisional Responsibilities) reviews the concept developed in the previous step for the change and decides whether the proposal is a necessary item for work, based on professional expertise with NPD 8700.1 requirements and responsibilities. If the proposed change is not needed, the project ceases.

6.04 DD   Closeout:

If the proposed change is not needed, the process is terminated.

6.05 DD with the DTM   Assign DL and Initiate Document Tree Update:

If the DD concurs with the need for a change, a staff member is assigned to be responsible for the requirements document development as the Document Lead (DL) of the change. This may or may not be the same staff member that identified the deficiency.

The Documentation Tree Manager (DTM) ensures that the new/revised document is added to the SMA Documentation Tree. An interim document number is assigned by the DTM or if the proposal is to adopt a standard, that appropriate data is added to the NASA Technical Standards Program candidates for adoption.

6.06 DL   Develop Draft:

The development of a draft document or proposal for adoption of a standard begins in accordance with references in Section 4. When the DL has completed the draft, the draft is reviewed for readiness and completeness with the cognizant DD. The DD and the DL determine who should review the draft during the discipline review. Other reviewers may be added internal and external to NASA based on the subject and interfaces affected.

6.07 DD   Acceptable?

The DD decides whether the document is mature enough to send out for discipline review or return for additional work, based on the DD's professional expertise and knowledge of SMA policies.

6.08 DD   Forward for Discipline Review:

The initial draft document or proposed standard for adoption is forwarded to designated reviewers from step 6.06. Additionally, the SMA Document Tree is updated to reflect the current status of the DRAFT by the OSMA Document Tree Manager and the OSMA Webmaster. (Note: The SMA Document Tree does not include adopted standards.)

The designated NASA HQ Offices and Centers staff the initial draft document through their respective organization(s) and provide comments back to the DL.   (Internal Customer Feedback).

6.09 DL   Resolve Comments and Develop the Discipline Review Draft:

Reviews each comment and propose resolution. The revised draft or adoption proposal is reviewed with the DD for a decision to proceed with further processing.

The DL prepares a disposition matrix that includes all of the comments received on the document and their disposition. The DL provides a copy of this matrix to all reviewers.

The DL files a copy of the Discipline Review Draft with comment review material or a copy of the adoption proposal as a Quality Record.

6.10 DD   Draft Acceptable?

The DD decides whether to send for further processing (and filed as a Quality Record) or return for additional work. The review is based on the professional expertise and knowledge of the DD and compliance with NPD 8700.1.   (Internal Customer Feedback).

6.11 DD   Document is Controlled by the Directives Process?

The DD reviews the draft to determine if the document is defined as a directive (reference 4.1) and requires additional processing through the NASA On-line Directives Information System (NODIS) process or if it can be processed directly for signature.

6.12 AA/SMA   Review and Release Document to NODIS:

The AA/SMA reviews the draft and signs a cover memo to release the document into the NODIS process in accordance with NODIS operating procedures and NPG 1400.1. (ref: HQOWI 1410-J007: Agency Directives Management Process)

HQ Office of Management Systems (Code J) coordinates formal staffing of the document in accordance with NODIS procedures and record keeping requirements. HQ Code J releases and posts the signed directive to NODIS with a final document number after approval.   (Internal Customer Feedback).

6.13 DD   Closeout:

The SMA Documentation Tree is updated to reflect the signed document.

6.14 PM   Prepare Signature Package and Review:

The DL prepares the document package for AA/SMA signature. The signature package includes the original document, matrix of review comments and disposition, supporting documentation and the draft change or standard adoption notice. A final document number is assigned by the DTM based on reference 4.1 guidance.

6.15 DD   Draft Complete?

Reviews the staffing package for readiness and completeness and decides whether to send for signature or return for rework so that all issues may be resolved.

6.16 AA/SMA   Review and Sign Document:

The AA/SMA reviews the draft and signs the document.

6.17 PM   Closeout:

The DL ensures that the signed document is posted to the SMA Document Tree (and document meta-data updated). In the case of adopted standards, forward the signed adoption notice to the NASA Technical Standards Program Office.

In the case of a NASA-STD the DTM informs the curator of the NASA Standards homepage of the release of the new or updated document. The Approved Document with its signature is filed as a Quality record.

7. Quality Records

Record ID	Owner	Location	Media Electronic /hardcopy	Schedule Number & Item Number	Retention & Disposition
Review Draft	DL	DL Files	Hardcopy	Schedule: 1 Item: 72.D	Keep until new document is approved and all review issues are resolved then destroy
Discipline Review Draft	DL	DL Files	Hardcopy	Schedule: 1 Item: 72.C	Keep until new document is approved and all review issues are resolved then destroy
NODIS Approved Document **Not an OSMA Quality Record**	Code JM	NODIS	Electronic	Per NPG 1400.1	Per NPG 1400.1

Record ID	Owner	Location	Media Electronic /hardcopy	Schedule Number & Item Number	Retention & Disposition
OSMA Approved Document (** Document is not in NODIS **)	OSMA DTM	Code QS	Hardcopy	Schedule: 8 Item 12.A	* Permanent * Retire to FRC when no longer needed for reference. Transfer to NARA when 15 years old

Appendix A: Supplemental Optional Information on Documentation Retention:

- For NASA Directives: Copy of the initial staffing package and disposition matrix in both electronic and hard copy. Copy of the signature-ready master document provided to Code J for release in electronic copy (hardcopy may also be retained.)

- For SMA Strategic Plan: A Master hard copy of the Plan with original signature, electronic copy of the master document and hard copy and/or electronic copy of the disposition matrix.

- For NASA-STDs: Master NASA-STD – hard copy with original signature, electronic copy of the master document and hard copy and/or electronic copy of disposition matrix.

- For adopted standards – a hard copy of the adoption notice with the original signature and electronic copy of the disposition matrix.